CLAIMS

What is claimed is:

1. A method of reducing proliferation of or extracellular matrix production by a cell in a mammal comprising administering to the mammal a composition comprising a therapeutically effective amount of a zvegf4 antagonist in combination with a pharmaceutically acceptable delivery vehicle, wherein the zvegf4 antagonist is selected from the group consisting of:

anti-zvegf4 antibodies;
inhibitory polynucleotides;
inhibitors of zvegf4 activation; and
mitogenically inactive, receptor-binding variants of zvegf4.

2. The method of claim 1 wherein proliferation of mesangial, epithelial, endothelial, smooth muscle, fibroblast, osteoblast, osteoclast, neuronal, stromal, stellate, or interstitial cells is reduced.

3. The method of claim 1 wherein proliferation of tumor cells is reduced.

4. The method of claim 3 wherein the tumor cells are prostate tumor cells.

5. The method of claim 1 wherein extracellular matrix production is reduced.

6. The method of claim 1 wherein the mammal is suffering from a fibroproliferative disorder of kidney.

7. The method of claim 1 wherein the mammal is suffering from a fibroproliferative disorder of liver.

8. The method of claim 1 wherein the mammal is suffering from a fibroproliferative disorder of bone.

9. The method of claim 1 wherein the zvegf4 antagonist is selected from the group consisting of anti-zvegf4 antibodies and inhibitory polynucleotides.

10. The method of claim 9 wherein the antagonist is an anti-zvegf4 antibody.

11. The method of claim 10 wherein the antibody is a monoclonal antibody.

12. The method of claim 9 wherein the antagonist is an inhibitory polynucleotide selected from the group consisting of antisense polynucleotides, ribozyme-encoding polynucleotides, and external guide sequence-encoding polynucleotides.

13. The method of claim 1 wherein the zvegf4 antagonist is administered in combination with an antagonist of a second growth factor.

14. The method of claim 11 wherein the second growth factor is EGF, a TGF-β, or an FGF.

15. A method of reducing proliferation of or extracellular matrix production by a cell in a mammal, wherein the cell is an epithelial, endothelial, smooth muscle, fibroblast, osteoblast, neuronal, or stellate cell, the method comprising administering to the mammal a composition comprising a therapeutically effective amount of a zvegf4 antagonist in combination with a pharmaceutically acceptable delivery vehicle, wherein the zvegf4 antagonist is selected from the group consisting of:

anti-zvegf4 antibodies;
inhibitory polynucleotides;
inhibitors of zvegf4 activation; and
mitogenically inactive, receptor-binding variants of zvegf4.

16. A method of reducing proliferation of or extracellular matrix production by prostate tumor cells in a mammal, the method comprising administering to the mammal a composition comprising a therapeutically effective amount of a zvegf4 antagonist in combination with a pharmaceutically acceptable delivery vehicle, wherein the zvegf4 antagonist is selected from the group consisting of:

anti-zvegf4 antibodies;
inhibitory polynucleotides;
inhibitors of zvegf4 activation; and
mitogenically inactive, receptor-binding variants of zvegf4.

17. A method of reducing metastasis of prostate cancer cells to bone in a mammal, the method comprising administering to the mammal a composition comprising a therapeutically effective amount of a zvegf4 antagonist in combination with a pharmaceutically acceptable delivery vehicle, wherein the zvegf4 antagonist is selected from the group consisting of:

anti-zvegf4 antibodies;
inhibitory polynucleotides;
inhibitors of zvegf4 activation; and
mitogenically inactive, receptor-binding variants of zvegf4.

18. A method of treating a fibroproliferative disorder in a mammal comprising administering to the mammal a composition comprising a therapeutically effective amount of a zvegf4 antagonist in combination with a pharmaceutically acceptable delivery vehicle, wherein the zvegf4 antagonist is selected from the group consisting of anti-zvegf4 antibodies, inhibitors of zvegf4 activation, mitogenically inactive receptor-binding zvegf4 variant polypeptides, and inhibitory polynucleotides.

19. The method of claim 18 wherein the fibroproliferative disorder is a fibroproliferative disorder of liver.

20. The method of claim 18 wherein the fibroproliferative disorder is a fibroproliferative disorder of kidney.

21. The method of claim 18 wherein the fibroproliferative disorder is a fibroproliferative disorder of bone.

22. The method of claim 18 wherein the antagonist is an anti-zvegf4 antibody.

23. The method of claim 22 wherein the antibody is a monoclonal antibody.

24. A method of reducing stellate cell activation in a mammal comprising administering to the mammal a composition comprising a zvegf4 antagonist in combination with a pharmaceutically acceptable delivery vehicle, wherein the zvegf4 antagonist is selected

from the group consisting of anti-zvegf4 antibodies, mitogenically inactive receptor-binding zvegf4 variant polypeptides, and inhibitory polynucleotides, in an amount sufficient to reduce stellate cell activation.

25. A method of treating a fibroproliferative disorder of kidney in a mammal comprising administering to the mammal a composition comprising a therapeutically effective amount of an antibody that specifically binds to an epitope of a protein as shown in SEQ ID NO:2 from amino acid residue 19 to amino acid residue 370, in combination with a pharmaceutically acceptable delivery vehicle.

26. The method of claim 25 wherein the antibody is a monoclonal antibody.

27. The method of claim 25 wherein the antibody is a humanized antibody.

28. The method of claim 25 wherein the fibroproliferative disorder of kidney is glomerulonephritis, diabetic nephropathy, or lupus nephritis.

29. The method of claim 25 wherein the fibroproliferative disorder of kidney is glomerulonephritis.

30. The method of claim 25 wherein the antibody binds to an epitope of a protein as shown in SEQ ID NO:2 from amino acid residue 258 to amino acid residue 370.

31. The method of claim 30 wherein the fibroproliferative disorder of kidney is glomerulonephritis, diabetic nephropathy, or lupus nephritis.

32. The method of claim 30 wherein the fibroproliferative disorder of kidney is glomerulonephritis.